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August 23, 2004

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Mr. Henri R. Bisson
State Director
U.S. Department of Interior
Bureau of Land Management
222 West Seventh Avenue, No. 13
Anchorage, AK 99513-7599

Dear Mr. Bisson:

1a The State of Alaska supports amending the 1998 National Petroleum Reserve-Alaska Northeast Integrated Activity Plan/Environmental Impact Statement (1998 Northeast IAP/EIS) to consider opening portions of the planning area currently unavailable for oil and gas leasing. My administration strongly believes that the oil beneath the NPR-A can be developed in a responsible way that provides fuel and jobs for America, while protecting the environment and the wildlife that depend on it.

2a More than three decades of oil development experience on the North Slope has provided Alaskans with the expertise to extract the hundreds of millions of barrels of oil believed to be beneath the NPR-A in a manner consistent with the National Petroleum Reserve Production Act of 1976. That Act states that development must occur in a manner that "will ensure maximum protection of such surface values to the extent consistent with the requirements of this Act for exploration of the reserve."

3a As is now well known, discovery and development of the large Alpine oil field on state and Native lands near the eastern NPR-A boundary established the presence of a previously unexplored, but potentially prolific, petroleum play in Jurassic-age reservoirs along the North Slope's Barrow Arch. Seismic surveys and exploration drilling targeting equivalent reservoirs beneath federal oil and gas leases in the northeastern NPR-A have resulted in several discoveries and have demonstrated that the productive Jurassic trend producing at Alpine appears to continue to the northwest beneath and possibly beyond the Teshekpuk Lake area. This trend is within the area identified by the Bureau of Land Management (BLM) as having high oil potential.

Federal geoscientists and economists have estimated that as much as 1.5 to 2.1 billion barrels of oil might be recoverable from beneath that portion of the northeast NPR-A being considered for leasing under this amendment.

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4a These estimates assume oil prices of \$25.00 and \$30.00 per barrel respectively. If these estimates prove to be true, the area might provide reserves the equivalent of fourtofive Alpine fields. The proof will lie in drilling exploration wells that the revised stipulations and mitigation measures will ensure can be undertaken without significant environmental impact.

5a Three previous NPR-A lease sales have resulted in high bonus bids and rental payments in excess of \$222 million, half of which goes to the state pursuant to federal law. Most of that is then distributed to impacted communities under state statute AS 37.05.530 National Petroleum Reserve-Alaska Special Revenue Fund. The results of these lease sales have been so encouraging that the BLM is currently analyzing an Environmental Impact Statement addressing possible development of three NPR-A development pads and infrastructure linking them to the Alpine field on the neighboring state lands.

6a Linking potential NPR-A development to existing infrastructure will maximize the use of Alaska's unique oil transportation system. This includes use of the Trans-Alaska Pipeline System, recently reauthorized for another 30 years, and the significant investment in state-of-the-art double-hulled oil tankers planned and built for the Alaska trade.

7a Current technology is available to minimize the environmental footprint of development, dispose of wastes properly, protect wildlife resources and subsistence uses, and avoid environmentally sensitive areas while at the same time maximizing our potential oil recovery through directional drilling and other state-of-the-art techniques. Well known are the environmental benefits resulting from advances in horizontal drilling with multi-lateral completions that allow numerous long-reach well bores to be drilled from a single "pilot" well. Long-reach multi-lateral completions from small pads are virtually the industry development-drilling standard following their successful applications at the Alpine field and other North Slope oil fields.

8a The State of Alaska believes that we can have development and environmental protection. Lease stipulations are an important means of ensuring that valuable surface resources are protected. With careful planning and appropriate lease and permit stipulations, healthy populations of caribou, geese, and other wildlife can co-exist with oil development in the NPR-A. This includes protection of resources to ensure the continuation of traditional cultural and subsistence practices.

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9a

Since the first test well was drilled in the NPR-A in 1949, there have been significant advances in scientific knowledge and technology concerning development in Arctic ecosystems. These advances mean that America's energy sources can be developed in a way that protects the environment, while ensuring the quality of life of Americans.

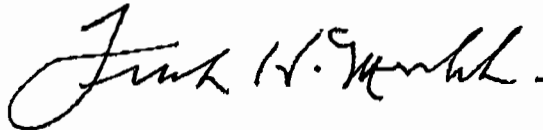
10a

Alaska is committed to increasing the exploration and development of our oil and gas resources by improving access, expanding the seasonal drilling window, and reducing permit delays.

11a

We appreciate the hard work and dedication of the BLM project team in developing the draft plan amendment. The state looks forward to working with the BLM to achieve our common goals for management of this area consistent with development of its significant oil and gas resources. Your cooperation in addressing critical state concerns detailed in the attached comments is appreciated.

Sincerely yours,



Frank H. Murkowski
Governor

Enclosure. State comments on the BLM NPR-A Northeast IAP/EIS
(Leasing Plan)

cc: Susan Childs, Bureau of Land Management Planning Team
John Katz, Office of the Governor
Tom Irwin, Commissioner, Department of Natural Resources

STATE OF ALASKA COMMENTS

Northeast National Petroleum Reserve – Alaska

Draft Amended Integrated Activity Plan

and

Environmental Impact Statement

Submitted by
Alaska Department of Natural Resources
August 23, 2004

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I. PREFERRED ALTERNATIVE

1 The State recommends the entire study area (19 percent of the total NPR-A) identified in the Draft 2004 Northeast NPR-A Amended Integrated Activity Plan/Environmental Impact Statement be available for leasing. In response to the initial 1998 Draft Northeast IAP/EIS, the State developed its preferred alternative based upon careful analysis of wildlife and habitat values, subsistence needs, economic and social progress and the use of applied technology advances. The State recommended crucial areas within the planning area be given special attention to protect surface resources. After reviewing the proposed plan amendment, the State requests the areas identified below be given the same level of protection recommended by the State in response to the 1998 plan:

1. the Goose Molting Area to the north of Teshekpuk Lake;
2. the Teshekpuk Lake area for its high density waterbird nesting value and subsistence use;
3. two critical caribou migration corridors located east of Teshekpuk Lake and northwest of Teshekpuk Lake;
4. the calving area for the Teshekpuk caribou herd; and
5. insect relief habitats for caribou along the coast and uplands

2 Surface resources within these areas are further described in the technical and page specific comments sections of this letter. It is the State's position that our preferred alternative protects these surface resources and the Inupiat way of life while still allowing oil and gas development and assists the Secretary in meeting stewardship and trust responsibilities to the fullest extent. In order to achieve this, the State strongly recommends that a collaboration process be developed and implemented as an integral part of all exploration and development planning within the planning area. This process should begin with the lease sale and continue until the final remnants of oil and gas development are removed. In addition, the collaborative process should ensure direct participation by the NSB, affected villages, and appropriate state and federal agencies in site-specific exploration and development decisions, but should not delay projects. The State is committed to active participation in BLM's efforts to develop and implement an effective collaboration process.

003 Alternatives In addition to the collaboration process described above, the State requests the following provisions be incorporated in the BLM's Preferred Alternative:

- 003 Alternatives Defer leasing in Teshekpuk Lake or make leasing available with the caveat that no permanent oil and gas facilities be allowed on the lake until further analysis is completed regarding spill concerns and other potential effects of construction, operation, and maintenance of drilling islands and causeways on water resources, fish, birds, and mammals.
- 004 Alternatives Defer leasing in the Goose Molting Area or make leasing available with the caveat that no permanent oil and gas facilities be allowed in the Goose Molting Area until the conditions set forth in the State's 1998 comments summarized below are met:

004 (Cont'd)
Alternatives

1. Goose and caribou disturbance studies, designed and implemented by a joint state, federal, NSB, and industry research and monitoring team are conducted.
2. Technology is advanced and it can be demonstrated that proposed oil and gas activities will not negatively impact molting geese behavior.
3. The consultation [collaboration] process is developed and successfully implemented in conjunction with an NPR-A exploration and development planning process.
4. The Federal Aviation Administration (FAA) and BLM, in consultation with the Alaska Department of Fish and Game (ADF&G) and the U.S. Fish and Wildlife Service (USFWS), develop and implement appropriate helicopter planning and routing restrictions for this area to prevent disturbance during the critical goose molting period.

006
Alternatives

- Delete the classification of “No Surface Occupancy” and identify specific surface uses that would be allowed or prohibited in areas of important surface resource values.

007
Stips &
ROPs

- Establish an area with no permanent oil and gas facilities (except a single pipeline corridor) in the critical caribou migration corridor between the Kogru River/Teshekpuk Lake (T14N, R4W; T14N, R3W)

008
Stips &
ROPs

- Establish a 3-mile wide corridor along south and west shores of Teshekpuk Lake and along the coast from Cape Halkett south to the Kogru River where no permanent oil and gas facilities would be allowed unless it can be demonstrated to the satisfaction of the BLM State Director in collaboration with state resource agencies, that proposed oil and gas activities will not negatively impact wildlife resources.

009
Stips &
ROPs

- Establish an area (T13 N, R2-5W and northern half of T12N, R2-5W) where no permanent oil and gas facilities would be allowed in order to protect calving caribou unless it can be demonstrated to the satisfaction of the BLM State Director in collaboration with state resource agencies, that proposed oil and gas activities will not negatively impact calving.

10

- Work with lessees and resource agencies to develop strategies and alternatives for shared infrastructure such as pipelines and processing facilities in order to maximize operation efficiency while minimizing potential impacts to surface resources

11

The State believes that these provisions, in combination with the draft stipulations and required operating procedures, will work toward minimizing potential displacement or disturbance of valuable surface resources consistent with the purposes of the NPR A.

12

The legislative history of the NPR-A establishes that Congress envisioned that the Reserve serve the country's need for oil and gas exploration and development, while not neglecting scenic, wildlife and other resource values. Consistent with this purpose, Congress specifically provided that environmental conditions or restrictions should not prohibit oil and gas development. Accordingly, the State of Alaska's preferred alternative would carry out the manifest intent of Congress to realize the oil and gas potential of the NPR-A, while protecting its valuable surface resources.

13

Alaska's economy is largely dependent on natural resource development. The challenge is protecting our environment without compromising economic development and jobs. Alaskans have a vested interest in the success of an NPR-A leasing program. Currently, the State of Alaska receives approximately 80 percent of its revenues from oil development and will receive 50 percent of all bonuses, rentals and royalties generated from NPR-A leases. Local communities will receive a priority allocation of these revenues. Alaskans will see significant benefits from NPR-A development in direct employment for jobs in petroleum exploration, development, production, and related activities, as well as employment in oil support services and retail industries.

14

The State believes the BLM has worked hard to assemble a vast amount of information in a relatively short time to produce this extensive document. Our following technical comments should be viewed as measures to further improve upon specific aspects of the document for the benefit of the document, Alaskans and the American public.

II. STIPULATIONS AND REQUIRED OPERATING PROCEDURES

A. General Comments

15

The State of Alaska generally supports the change from prescriptive measures to performance-based stipulations and required operating procedures. This approach properly recognizes that technology and environmental and cultural values change with time and location and allows evaluation of proposed exploration, development, and production activities in the context of conditions existing at the time and place of the proposed activity.

However, some prescriptive measures (e.g., altitude restrictions, minimum distances from active bear dens) should be retained as they provide clearly defined operational criteria that can be understood and met during field operations. Procedural consultation with affected subsistence interests and expanded caribou studies should provide additional timely information with which to evaluate proposed activities.

B. Specific Comments

A. Waste Prevention, Handling, Disposal, Spills, and Public safety

ROP A-3 and A-4, Page 2-16. A-3 requires a Hazardous Materials Emergency Contingency Plan before transportation, storage, or use of fuel or hazardous substances. A-4 requires a Comprehensive Spill Prevention Plan before initiating any oil and gas related activity. There appears to be some redundancy in these two plans as they apply to oil and gas related activities. BLM may want to consider combining the requirements of the two plans into a single plan requirement that satisfies the objectives ROPs A-3, A-4, and A-5.

ROP A-4b, Storage Containers, Page 2-16. This mitigation measure indicates that fuel and other petroleum products shall be stored at approved locations. The ROP should also reference setback requirements (100 ft from non fish-bearing waters and 500 ft from fish bearing waters) for hazardous materials storage from fish-bearing and non-fish-bearing waters.

019
Stips &
ROPs

ROP A-5, Refueling, Page 2-16. The boundary change from the highest high water mark to the active floodplain may present compliance difficulties, e.g., delineating the floodplain during winter exploration operations, proximity to other active floodplains, and the possibility of displacement into more undesirable locations. In addition, certain circumstances (e.g., crane operations for bridge placement) will require exceptions to setback requirements for safety and logistical reasons.

020
Stips &
ROPs

B. Water Use for Permitted Activities

We request these mitigation measures include language that acknowledges the Alaska Department of Natural Resources' (DNR) exclusive regulatory authority to approve water withdrawals from surface and subsurface waterbodies in Alaska, including water bodies in the NPR-A. This authority is based on the common law doctrine of Public Trust, which is embedded in the Alaska Constitution, Article VIII Section 3, entitled Common Use. The doctrine provides that fish, wildlife and waters within the State must be managed by the State as a public trust for the benefit of the people as a whole. Alaska Statute (A.S.) 46.15 specifically delegates the authority to adjudicate water rights and temporary authorizations for the use of surface and subsurface waters to the ADNDR.

021
Stips &
ROPs

ROP B-2, Page 2-17. Please note that under the exception provision, the figures in this mitigation measure may warrant further adjustments by permitting agencies based on completion of further fish studies and future acquisition of more complete or detailed information.

022
Stips &
ROPs

C. Winter Overland Moves and Seismic Work

ROP C-3, Protection of Water Quality, Page 2-19. This measure should be modified to note that, except for approved crossings, alteration of the banks of a waterway is prohibited; clearing of willows along the riparian zone is prohibited; and movement of equipment through willow stands shall be avoided whenever possible.

023
Stips &
ROPs

F. Use of Aircraft for Permitted Activities

ROP F-1.c., Page 2-23. This standard recommends designing larger storage pads and airstrips to accommodate larger aircraft to reduce the number of flights to a facility. However, K-5.e.4 states use of aircraft larger than a Twin Otter during May 20 to August 20 within the Teshekpuk Lake Caribou Habitat Area shall be for emergency purposes only. Limiting the size of the aircraft under K-5.e.4 to a relatively small aircraft with limited cargo-carrying ability, could serve to increase the required number of flights to a facility, thereby conflicting with the intent of ROP F-1.c to reduce the number of flights to a facility.

024
Stips &
ROPs

ROP F-1.e., Page 2-23. This ROP states aircraft use (fixed wing and helicopter) by oil and gas lessees in the Goose Molting Area should be minimized from May 20 through August 20. We request the addition of altitude minimums, except for take off and landing, over the GMA in order to meet the intended objective of minimizing the effects of low flying aircraft on geese.

K. Biologically Sensitive Areas

K-1g Tingmiaksiqvik (Ublutuoch) River

The Tingmiaksiqvik River (Ublutuoch River) contains high value resident and anadromous fish habitat, particularly in its lower reaches. This river is included in lease stipulation K-1 (Rivers) for the preferred alternative. The stipulation designates no permanent oil and gas facilities, except essential transportation crossings within one half mile of the river and notes, “this stipulation applies only to the preferred alternative.” We recommend the Tingmiaksiqvik River setback stipulation be included in all alternatives, and not just in the preferred alternative.

K-3 Lease Stipulation, Teshekpuk Lake, Page 2-29. This stipulation would allow oil and gas exploration and development activities in Teshekpuk Lake. This stipulation is in apparent conflict with Stipulation D-1, which prohibits exploratory drilling in fish-bearing lakes. This apparent conflict between the two stipulations should be rectified. In addition, under the Requirement/Standard (Development), the term “causeway” should be clarified because if a bottom-founded structure, a causeway would fall under the definition of “Permanent Oil and Gas Facilities” which are prohibited by this stipulation.

K-4 Lease Stipulation, Goose Molting Area, Page 2-31. Standard (g) notes strategies to minimize ground traffic within the GMA will be implemented from May 20 to August 20 and that strategies may include convoys, limiting trips, vehicle types and other options to the extent practicable. We appreciate strategies to minimize disturbance, however; minimal transportation requirements to operate a facility may be more than sufficient to cause effects to the resource. Further, where traffic management has been attempted within the current oilfields, exceptions to the traffic control plan during operations have been the norm rather than the exception. Exceptions are requested for additional trips, vehicles, road and culvert repairs, equipment repairs, priority equipment requests, and emergencies. Based on this, it is likely that more disturbance could occur than anticipated and may produce significant effects to the resource. Similar effects will likely occur with exceptions to any air traffic management plan or aircraft size limitation plan that may be developed and implemented. We are committed to assisting BLM to develop strategies and alternatives to meet the objective of this stipulation.

K-5 Lease Stipulation – Teshekpuk Lake Caribou Habitat Area.

a. This standard requires a three year study of caribou movements, with the study design approved by the Authorized Officer (AO). Stipulation 29 of the 1998 ROD currently in effect provides for the caribou study design to be approved by the AO in consultation with the Research and Monitoring Team. We request stipulation K-5a be modified to include approval of the caribou study design in consultation with appropriate state, federal, and North Slope Borough regulatory and resource agencies.

e. The points discussed above for protection of molting geese through air and ground traffic management (Stipulation K-4) also apply to caribou, particularly in the narrow migration corridors between the Kogru River and Teshekpuk Lake.

III. TECHNICAL COMMENTS

A. DNR

1. Office of Habitat Management and Permitting/Alaska Department of Fish & Game

General Comments

030
Water D

Goose Molting Area Lake Water Resources

We recommend the final EIS provide an assessment on the depth and potential water availability in the goose molting area lakes north and east of Teshekpuk Lake. Map 3-8 appears to provide the only information regarding lake depth for lakes in this area. From this map, few lakes would appear to have water in winter for use. As a result, selected lakes would require substantial withdrawal during exploration and development. While exploration water withdrawals may be limited in scope and may be dispersed over many lakes, development drilling and operations would potentially require substantial amounts of water over a number of years from one or a few

031
Water D

lakes proximate to the drill site. We further recommend an assessment of lake recharge/recharge potential in this area. Of particular concern are the potential effects or changes to shoreline structure, emergent and shoreline vegetation that could adversely affect areas used by large numbers of molting geese. While lease stipulation K-4 states water withdrawal shall not alter hydrological conditions that could adversely affect goose feeding habitat around lakeshore margins, the fact remains that extensive water use will be required for exploration and development within the this area. A thorough discussion of the potential effects of short-term and long-term water withdrawal to lakes in the goose molting area and the biological resources that use them should be provided.

032
Teshekpuk
Lake

Teshekpuk Lake

Under the preferred alternative and Alternative C, Teshekpuk Lake would be available to leasing and subsequent exploration and development drilling. As a consequence, drilling islands and causeways into Teshekpuk Lake are a likely possibility if exploration drilling discovers commercial quantities of oil beneath the lake. There should be a thorough discussion regarding the potential effects of construction, operation, and maintenance of drilling islands and causeways on water resources, water quality, fish, birds, and mammals.

033
Birds

Bird Use of the Goose Molting Area

Only one small paragraph (Chapter 3, Affected Environment, Section 3.3.6.3, Waterfowl, Brant) describes the use of the Goose Molting Area (GMA) north of Teshekpuk Lake by brant. Two sentences for white-fronted geese and one sentence for Canada geese describe numbers of these birds in the GMA. One table (Table 3-7) records the number of geese using the GMA. Given the importance of this area to geese for molting, as noted in the following paragraphs, a much more detailed and expansive discussion of the physical characteristics of the area, and the behavioral peculiarities of geese using this area, the energetic importance of using this area to geese is needed in this document.

034
Birds

A detailed discussion of the potential effects of the various activities associated with oil and gas exploration and development to geese using the GMA also needs to be presented within the appropriate Environmental Consequences sections.

035
Birds

Value of Waterfowl Resources Relative to Environmental Risks

The integrity and security of this area for geese is of greater consequence than any other waterfowl habitat issue on the North Slope. At stake in the Teshekpuk Lake Special Area (TLSA) are the welfare of 50,000 geese, stability of continentally important goose populations, and the public values these geese provide from Canada to Mexico. The goose molting area of the NE NPR-A Planning Area is most critical for Pacific black brant. On average, this region supports 15 percent of the entire population (up to 30 percent in some years) for several months; it has been a long-term historical molting area for brant from all breeding grounds including the Yukon-Kuskokwim Delta (75 percent of Teshekpuk molters), North Slope, Canada, and Russia. Pacific black brant are important subsistence resources in northwest Canada, as well as along Alaska's west coast, and they provide valued hunting and viewing opportunities from British Columbia to Baja Mexico.

036
Birds

The area is also the primary molting site for the North Slope segment of Mid-continent greater white-fronted geese (MCWFG). The presence of MCWFG in the TLSA has grown from less than 5,000 birds in the 1980s to an average of over 20,000 in the past 10 years; the highest count of 35,000 in 2002 approached 6 percent of the continental population. These geese provide subsistence and recreational hunting, and viewing from Alaska to Mexico and pass through four Canadian provinces and 32 states of the Mississippi and Central Flyways.

037
Birds

Behavioral Sensitivity of Geese

Molting geese are extremely vulnerable to predation during the flightless period, and have adapted sharp behavioral responses to disturbance including high levels of alertness, immediate group action when any bird senses danger, and extensive movements away from potential threats. Although these responses are essential for survival, they consume precious time needed for intensive feeding and energy reserves that are at low ebb during the molt. As a consequence, geese seek unique environments where disturbance events are mild and/or infrequent to obtain both safety and nutrition.

038
Birds

On the North Slope, the distribution of molting geese reflects these needs. Although there are probably suitable large lakes south of Barrow, human activity and harvest inhibit establishment of molting traditions by geese. Brant and Canada geese that breed in the Prudhoe Bay oilfield seek isolation on the shores of Prudhoe Bay, on peripheral large lakes, or the Sagavanirktok River Delta during molt. Aggregations of white-fronted and Canada geese are found in large drained-lake basins in the Colville River Delta.

039
Birds

Over evolutionary time scales, geese have developed strong traditional use of specific molting sites, and even to specific lakes, where each population aggregates in large numbers. The tradition of molt migration is taught to succeeding generations, and favorable molting sites become firmly established through successful experience. Strong traditions in geese for nesting, molting, and wintering areas are not readily established or changed. Although documentation of shifts in traditional goose distributions is limited, examples range from sudden responses to single events to large-scale changes in breeding and wintering areas over decades. Currently, the impacts of oil and gas development near Teshekpuk Lake are difficult to predict, because

specific development scenarios are unknown and responses of molting geese to different sources of disturbance have not been studied sufficiently.

Unique Ecological Characteristics

Old marine sediments north of the Barrow Arch have promoted the development of large thaw lakes across northwestern NPR-A. A region of more recent and finer sediments, found north of a secondary beach ridge, extends north of Harrison Bay, Kogru River, and Teshekpuk Lake, and to Smith Bay. The finer soils of this area favored development of the largest lakes in a dynamic system of nested, multi-generational basins. Lake basins in this region are separated by high (5-10 m) and relatively dry ridges, remnants of the oldest land surfaces. Most basins have been partially drained over time, and now contain shallow central lakes surrounded by flat zones of wet meadow. A substantial extent of the wet meadow habitat is composed of *Carex subspathacea* and *Puccinellia phryganodes*, primary forage plants of brant and other geese. These meadows and their plant communities are sustained by a hydrologic balance of lake levels and water quality within the basins.

This unique ecological formation north and east of Teshekpuk Lake was selected as a traditional molting area by geese for its physical attributes and plant communities. No other region of the North Slope, nor the Western Canadian Arctic, has this combination of: (1) large water bodies with persistent ice pans as sanctuary for flightless birds, (2) rich and extensive foraging habitats adjacent to the lakes, (3) relatively low densities of predators (and human harvest), and (4) proximity to coastal staging areas and migration paths. These characteristics provide essential protection and rich food resources for geese that are energetically stressed by molt and in critical need of nutrient reserves for migration. Traditional molting sites are a function of not only ecological attributes of the area, but also distance from breeding grounds, energetic budgets of individual populations and species, and concurrent use by other geese.

Issues to Address Regarding Molting Geese and Development Activities

The goose molting area is a network of narrow upland ridges between large lake basins. Oil and gas leasing must proceed on the assumption that surface access is necessary for exploration and that oilfield development, although uncertain in size and density, will result. For the most part, exploration and drilling during winter is benign to geese, provided that habitats are not damaged.

Inconsistent Displacement Distances

In more than one location in this document, varying distances are used to describe displacement or effects of disturbance to individual animals. For example, distances of anywhere from 1 to 2.5 miles are given as the displacement of calving caribou from roads. The correct distances need to be consistently used throughout the document to accurately present the potential impacts of various aspects of the proposed alternatives.

Steller's and Spectacled Eiders

A separate analysis of impacts within Environmental Consequences should be developed for spectacled and Steller's eiders. Given the rather restricted distribution of Steller's eiders, and the more widespread distribution of spectacled eiders, the relative impacts of a specific activity to each of the species should differ. Providing separate analyses for each species should give a more clear assessment of the potential impacts to each species.

Page Specific Comments

45 Within the Environmental Consequences chapter, sections of text are often repeated for all three alternatives. Any comments to repeated material generally address the first instance where comments are warranted. Text should be reviewed to ensure comments to all applicable text are addressed throughout the document.

046
Edits

Chapter 1, Introduction, Figure 1.1. The text describing the boxes labeled Affected Environment and Environmental Consequences is reversed.

047
Alternatives

Chapter 2, Alternatives, Section 2.6.1, Definitions, Body of Water or Waterbody, Page 2-12. The definition of body of water or water body states “a lake, river, stream, creek, or pond that holds water throughout the summer and supports a minimum of aquatic life.” The definition should be revised to include ephemeral streams that may only contain water for part of the summer season. These streams can serve as important migratory corridors that also provide seasonal rearing habitat for some species of fish such as Arctic grayling.

048
Stips &
ROPs

Chapter 2, Alternatives, Section 2.6, Stipulations and Required Operating Procedures, B. Water Use for Permitted Activities, Page 2-18. Under B-2g, approval of fish screening devices is currently performed by the Alaska Department of Natural Resources (ADNR), Office of Habitat Management and Permitting (OHMP). This responsibility was transferred from the Alaska Department of Fish and Game (ADF&G) in 2003.

049
Impact

Chapter 2, Alternatives, Section 2.9, Impacts to Current and Future Lease Holders from Revisions to 1998 Northeast IAP/EIS ROD, Page 2-34. The text in this section notes that changes to existing stipulations and the offering of additional lands for leasing may occur through this current process. It further states that it is speculative to estimate or analyze the impacts of leasing that has not yet been authorized. We recommend deleting this sentence because this logic could also be applied to speculation regarding estimation of potential impacts (key components of the Environmental Consequences section.)

050
Fish

Chapter 3, Affected Environment, Section 3.2.9.1, Surface Water Resources, Shallow Lakes and Ponds, Page 3-22. Shallow lakes less than six feet deep also provide important summer rearing habitat for fish if they have a channel connecting them to a stream or deep lake that supports fish overwintering.

051
Vegetation

Chapter 3, Affected Environment, Section 3.3.2, Vegetation, Paragraph 5, Page 3-29. The last sentence of this paragraph discussing shrubs in the planning area - “With the exception of birds, the remainder are dwarf shrubs” - needs to be corrected.

Chapter 3, Affected Environment, Section 3.3.7, Mammals, Caribou, Teshekpuk Lake Herd (TLH), Page 3-48.

052
Caribou

Population Status and Range. The primary range of the TLH is the North Slope west of the Colville and Itkillik Rivers, with peripheral range sometimes extending south of the Brooks Range as far as the Nulato Hills and as far east as the Arctic National Wildlife Refuge.

After the decrease in the herd estimate in 1995 (25,076 caribou), the count of the TLH then increased in 1999 (28,627 caribou) and in 2002 (45,166 caribou). It is most likely that the 1999 count was an underestimate and that the herd has gradually increased since the mid 1990s.

053
Caribou

Migration. The text states that after calving, most of the caribou spread out from the calving area to the east, west, and south. To the contrary, nearly all of the parturient cows migrate north through the narrow corridor located between Teshekpuk Lake and the Kogru River shortly before or after calving. During this period they are very sensitive to disturbance and would be most affected by development in the area. Most of the herd then uses the area along the coast for insect relief. After the insect relief period, TLH caribou spread out and can be found across the North Slope coastal plain. Fall movements of the TLH are variable among individual caribou and years.

054
Caribou

Calving Grounds. While the size of the TLH annual calving grounds has been reported to range from 938 square miles to 1,861 square miles (Kelleyhouse 2001), recent calving by the TLH has been concentrated southeast and northeast of Teshekpuk Lake. Carroll (2001) reported that in 2000 calving occurred all around Teshekpuk Lake and that more calves than usual were south and west of the lake. Aerial transect data (1999–2001) agree with telemetry data (1990–2004) that during the calving period, caribou use the entire area around Teshekpuk Lake.

055
Caribou

Summer Distribution. The Teshekpuk Lake area is important as summer range because of prevailing winds and proximity to the coast, river deltas, and lake edge that provide insect-relief habitat and adjacent forage.

056
Caribou

Fall and Winter Range Use and Distribution. During most years, most TLH caribou winter on the coastal plain, but portions of the herd may also winter in a variety of other places. In some years, some of the herd has migrated as far as the Nulato Hills to the south, Point Hope to the west, and the Arctic National Wildlife Refuge to the east.

057
Caribou

Harvest. Subsistence harvest of the TLH is year-round, with most occurring between July and October by residents of Anaktuvuk Pass, Atkasuk, Barrow, Kaktovik, Nuiqsut, Point Hope, and Wainwright. It is difficult to determine precise numbers for TLH harvest because not all hunters report their harvest and because most villages may harvest caribou from more than one herd. However, by examining village subsistence harvest studies and using radio-telemetry data to determine the percentage of caribou that are in village hunt areas during harvest season, a reasonable estimate can be made of TLH harvest. During the year 1999–2000 approximately 2,500 TLH caribou were harvested, and an estimated 2,760 TLH caribou were harvested during 2000–2001 in North Slope villages. Harvest from the TLH by sport hunters is generally low and mostly confined to the Colville River drainage.

058
Birds

Map 3-10, Onshore Density of Pacific Loons. The density of Pacific loons is categorized with non-specific high, medium high, medium, and low categories. There is no definition in

058 (Cont'd)
Birds

quantitative terms as to what density each of these categories represent. The 1998 NE NPR-A document maps presented similar information with quantitative densities (birds/square kilometer). The density information should be presented in quantitative terms to match that presented in the 1998 document. In addition, the density information is presented only for the years 1998 to 2001. Consideration should be given to including the data presented in the 1998 document with that included in the current document. The density map also presents information for the entire NPR-A, not just the NE portion. While this provides the reader with an overview of the distribution and density of the birds throughout the NPR-A, a map of similar size showing distribution and density within just the NE NPR-A boundaries would be useful. The use of light blue as the color for low density is a similar shade of blue used for water, thereby making it difficult to delineate water from low densities of birds.

059
Birds

Map 3-11, Onshore Density of Yellow-billed Loons. Same comments as Map 3-10.

060
Birds

Map 3-12, Onshore Density of Red-throated Loons. The density information is presented only for the years 1998 to 2002. Consideration should be given to including the data presented in the 1998 document with that included in the current document. The density map also presents information for the entire NPR-A, not just the NE portion. While this provides the reader with an overview of the distribution and density of the birds throughout the NPR-A, a map of similar size showing distribution and density within just the NE NPR-A boundaries would be useful.

061
Birds

Map 3-13, Onshore Density of Tundra Swan. Same comments as Map 3-10.

062
Birds

Map 3-14, Onshore Density of Greater White-fronted Geese. Same comments as Map 3-10.

063
Birds

Map 3-15, Goose Molting Lakes. The scale of this map should be expanded so that the figure depicts only the goose molting area and not the entire planning area. This will permit easier assessment of the number of birds using the lakes, particularly the smaller lakes. A map showing the Goose Molting Area of the preferred alternative overlying the goose molting lakes should be provided to visually depict the proportion of the molting lakes that would be open to leasing.

064
Birds

The figures depicting the mean annual counts of brant, greater white-fronted geese, and Canada geese in the 1998 plan (Figures III.B.4-8, 4-10, 4-11) should be included in this current document to allow assessment of the relative use of the Goose Molting Area by each of these species.

065
Birds

Map 3-16, Onshore Density of Pintails. Same comments as Map 3-10.

Map 3-17, Onshore Density of Long-tailed Ducks. Same comments as Map 3-10.

Map 3-18, Onshore Density of King Eiders. Same comments as Map 3-10.

Map 3-19, Onshore Density of Large Shorebirds. Same comments as Map 3-10.

066
Caribou

Map 3-22, Teshekpuk Lake Caribou Herd Insect Relief Areas. The legend for this map or the associated text should clearly explain how fixed kernel probabilities relate to distribution of

caribou during the mosquito and oestrid fly seasons. This figure is confusing unless one is familiar with this type of analysis.

067
Marine
Mammals

Map 3-25, Bowhead Whale Density. The years of survey should be included with this map so the reader can determine if the map is based on one year or several years of data.

068
Threatened

Map 3-26, Onshore Density of Spectacled Eiders. Same comments as Map 3-10.

069
Impact

Chapter 4, Environmental Consequences, Section 4.1, Preview of this Section, Page 4-6. The first paragraph on this pages states “the State of Alaska has oil discharge and contingency planning regulations that contain requirements to minimize wildlife hazing.” There are no such regulations that contain requirements to minimize wildlife hazing.

070
Production

Chapter 4, Environmental Consequences, Section 4.2.1.2, Oil and Gas Exploration and Development Activities, Gravel, Page 4-23. The last paragraph on this page discusses the use of rigid foam board insulation in gravel pads. While this technique may reduce, to some extent, the amount of gravel needed, it poses problems during gravel pad reclamation activities. The use of foam within or beneath gravel pads creates problems when the pad is rehabilitated. The foam may break into small pieces that can be carried offsite by wind if the material of the pad is required to be removed because of site contamination remediation or material reuse at site closure. Inclusion of foam in reuse gravel will likely make this material unsuitable for other uses. Use of foam within gravel roads and pads should be managed and designed to accommodate these concerns.

071
Pipelines

Chapter 4, Environmental Consequences, Section 4.2.1.2, Oil and Gas Exploration and Development Activities, Pipeline Construction, Page 4-30. The assumptions listed for pipeline design and construction that would apply to future NPR-A projects include: wide, shallow rivers could be crossed by trenching and burying pipelines, and narrow streams could be crossed by elevated pipelines. This section should be modified to note that fewer impacts would occur to the stream, streambanks, riparian habitat, and aquatic resources if a properly designed elevated pipeline crossing were to be used. Potential problems associated with maintenance, corrosion, and abandonment also would be less with an elevated crossing versus a buried crossing.

072
Basic

Chapter 4, Environmental Consequences, Section 4.2.1.2, Oil and Gas Exploration and Development Activities, Differences in Activity Levels for Leasing Alternatives, Page 4-36. This section discusses how the total economic resource potential of the planning area is reduced by objective (area deletions and buffers) and by subjective (cost of mitigation) factors for each of the alternatives at low, medium, and high price scenarios. Costs of mitigation are subjectively assessed at 20 to 30 percent. Costs of subsistence use protection are assessed at an economic resource potential reduction of 10 percent. There needs to be a discussion presented in this section regarding what information served as the basis for these assessments. A clear understanding of the methods and criteria used to make the reduction calculations to the economic resource potential under the various alternatives is important to assessing the true extent of potential development under each scenario.

073
Effects
of Spills

Chapter 4, Environmental Consequences, Section 4.2.2, Oil Spills, Fate and Behavior of Spilled Oil, Spills on Tundra, Page 4-48. The text states tundra relief is low enough to limit the spread of spills. While relief may be low on portions of the planning area, conditions exist, particularly in spring, that would assist spreading of oil over large areas. During spring breakup, widespread elevated streamflows and extensive meltwater sheet flow across the tundra surface could easily spread spilled oil over an extensive area.

074
Water D

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.4.1, Water Resources, Ice Road/Pad Water Use, Page 4-64. This paragraph regarding water withdrawal for ice road and pad construction notes that a 259 acre-foot withdrawal of water would cause a drawdown in lake level of about 1.4 feet for a lake with a surface area of 184 acres. While this may be accurate for a summer withdrawal, given the irregular bathymetry of lakes in the area coupled with the presence of ice, which greatly reduces the effective surface area of free water in a lake in winter, a 259 acre-foot withdrawal would produce a significantly greater drawdown than demonstrated in the example.

075
Fish

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.4.2, Water Resources, Surface Water and Groundwater Quality, Page 4-67.

The third paragraph on page 4-68 discusses the results of a study regarding reserve pits and hydrocarbons; however, no citation is provided in the text. The subsequent paragraph states that lining and berming reserve pits would not be necessary to protect tundra from contamination. Current industry practice is to use tanks and re-inject muds and cuttings to avoid the use of reserve pits common in early North Slope exploration and production drilling.

Water R.

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.7, Fish, Freshwater and Anadromous/Amphidromous Fish, Page 4-81. The second paragraph notes that seismic surveys could produce acoustic pulses that are lethal to juvenile fish yet that would only cause temporary discomfort to adult fish. As these pulses are perceived by fish as changes in pressure, severe differential effects related to size, such as those produced by electrical current, would not be expected to occur.

75

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.7, Fish, Freshwater and Anadromous/Amphidromous Fish, Effects from Pad, Road, and Pipeline Construction, Page 4-84.

077
Edits

The third paragraph describes benthic and fish studies conducted in the North Fork Chandler River. These studies were conducted in the North Fork Chandalar River.

078
Impacts

The second paragraph on page 4-85 notes that once installed, suspended and entrenched pipelines would have no effect on stream and water flow characteristics. Experience on the North Slope has shown that effects can occur once buried pipelines are installed. The Badami Pipeline buried crossing of the East Channel of the Sagavanirktok River intersected a narrow, shallow channel draining an abandoned river oxbow. During the spring breakup following installation, water eroded the overburden and pipe backfill at the transition from buried to above ground pipe. As erosion progressed, headwall cutting in the outlet channel of the oxbow

threatened to drain the entire oxbow. Several summers of work at this site have been required to stop the headward erosion at this site. Also, heat from the Trans-Alaska Pipeline (TAPS) has altered water temperature and instream plant communities immediately over the pipeline in areas of the Atigun River floodplain. Excavation of instream buried sections of TAPS for corrosion inspection and repair in the 1980s and 1990s produced loss of riparian habitat, increases in sedimentation, and diversion of stream channels. Design techniques for buried pipelines must be scrutinized to avoid such impacts.

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.8.2, Birds, Effects of Disturbances, Exploration, Page 4-97. This section discusses potential effects of summer seismic surveys in Teshekpuk Lake to birds. While this discussion points out some potential effects, it does not point out or discuss a number of factors that will be associated with summer seismic operations. This section should include a discussion similar to that presented for onshore seismic operations discussed on pages 4-16 and 4-17. The potential number, type and size of boats that would be required to conduct the seismic survey in the lake should be presented, along with the frequency of trips and the estimated time frame to conduct the survey. Also to be considered should be the potential number and frequency of support flights needed for the operation. There also needs to be a discussion of the winter staging of the boats and seismic equipment at the shore of the lake, both pre- and post-survey, as winter cross country travel is the most likely method of getting the equipment to and from the lake (unless airlifting the entire operation with large helicopters is considered feasible). These additions will allow a more thorough evaluation of the potential impacts of this activity.

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.8, Birds, Permanent Habitat Loss, Page 4-101. The first paragraph in this section states the development scenario indicates that at abandonment of the field, gravel would not be removed but would be allowed to bed naturally. However, the subsection, Development Scenarios, beginning on page 4-31, does not indicate that gravel will be allowed to remain in place. The document needs to carefully lay out the basic assumptions for exploration and development for all alternatives, and then all discussions use the same assumptions so that an accurate assessment of the potential effects of these activities can be determined.

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.9.1, Terrestrial Mammals, Effects of Disturbances, Page 4-109. The last paragraph of Exploratory Drilling notes that there would be a greater potential for grizzly bears and foxes to be attracted or habituated to camps associated with drill sites. However, during winter, when exploratory drilling is occurring, grizzly bears would be in hibernation and would not be attracted to these camps.

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.9.1, Terrestrial Mammals, Effects of Disturbances, Caribou, Page 4-110. The following reference, which discusses displacement of calving caribou along the Meltwater and Tarn roads, and discusses the effectiveness of traffic convoying at reducing calving displacement, should be considered as a reference in this discussion and elsewhere in the document.

Lawhead, B.E., A.K. Prichard, M.J. Macander, and M. Emers. 2004. Caribou mitigation monitoring for the Meltwater Project, 2003. Third Annual Report. Prepared for ConocoPhillips

082 (Cont'd)
Caribou

Alaska Inc., Anchorage, Alaska by ABR Inc. – Environmental Research & Services, Fairbanks, Alaska. 104 pp.

This study noted maternal caribou with calves were displaced from the area near both the Meltwater and Tarn roads during and up to two weeks post calving. Very few calves were observed within 2 km of either road during the calving period and densities appeared to be reduced as far away as 4 km. Traffic conveying on the Meltwater road was not effective at reducing calving displacement to less than 2-4 km or reducing the disturbance reactions of caribou within 500 m of the road.

083
Effects
of Spills

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.9.1, Terrestrial Mammals, Effects of Spills, Page 4-116. The second paragraph notes oiled mammal hair would be shed during summer before winter fur is grown. Depending on the timing of the spill event (e.g., if it occurs in the fall), oiled fur would not be shed until the following summer.

The third paragraph notes that spill response activities could displace cow caribou with calves up to 2.5 miles. A citation should be provided for the reference on which this statement is based.

084
Marine
Mammals

Chapter 4, Environmental Consequences, Alternative A, Section 4.3.9.2, Marine Mammals, Effects of Disturbance, Page 4-120. The third paragraph on this page states that disturbance from air traffic could lead to abandonment or trampling of spotted seal pups by larger seals. The coastline of the NE NPR-A planning area is not used by spotted seals for pupping.

085
Water W.

Chapter 4, Environmental Consequences, Alternative B, Section 4.4.4, Water Resources, Effects of Disturbance, Ice Road/Pad Water Use, Page 4-178. This paragraph incorrectly states the under-ice water withdrawal conditions for this alternative. This alternative, as with the preferred alternative, limits water withdrawal to 15% of the under-ice volume for lakes deeper than 7 feet and up to 30% for lakes containing only ninespine stickleback and/or Alaska blackfish. See Required Operating Procedure B-2.

086
Water R.

Chapter 4, Environmental Consequences, Alternative B, Section 4.4.4, Water Resources, Effects of Disturbance, Drainage Disruption, Page 4-179. The second paragraph of this section notes that culverts must have ample capacity to handle the flow of the drainage during spring breakup to avoid ice jams. Generally, ice jams are not the problem associated with undersized culverts. If culverts are not adequately sized for the drainage, high flows often cause failure of the culvert and a portion of the road. This causes gravel deposition in the stream downstream of the culvert which may impede fish passage. Undersized culverts often have water velocities that exceed that of the free-flowing stream, thereby impeding or preventing efficient upstream movement of fish through the culvert. Undersized culverts also lead to downstream channel scouring.

087
Stips &
ROPs

Chapter 4, Environmental Consequences, Alternative B, Section 4.4.4.3, Water Resources, Effectiveness of Stipulations and Required Operating Procedures, Page 4-184. In this subsection and in many other locations, it is noted that drilling would not be allowed in fish-bearing lakes (Lease Stipulation D-1). However, under Alternatives B and C, Teshekpuk Lake, which is fish-bearing, would be available for drilling in much of the lake (Lease Stipulation K-3). This apparent conflict should be rectified. (see previous comments on K-3 on page 5)

088
Gravel

Chapter 4, Environmental Consequences, Alternative B, Section 4.4.7, Fish, Effects from Gravel Extraction, Page 4-194. This subsection describes potential effects of gravel removal on fish overwintering and spawning areas during the open water period. The current industry practice is to mine gravel in winter when the ground is frozen and dry which allows them to obtain more material at reduced costs than would be obtainable in the open water period. While the effects described can occur during summer instream mining, the current practice does not produce these effects.

089
Impact

Chapter 4, Environmental Consequences, Alternative B, Section 4.4.9, Mammals, Oil and Gas Development, Caribou, Page 4-210.

Calving and Insect Relief Habitats The third paragraph on Page 4-210 suggests that impacts to caribou under the preferred alternative would affect approximately 345 to 4,310 additional acres of habitat when compared to the no action alternative. This anticipated impact to additional acres of habitat underestimates the potential impacts to calving caribou and caribou seeking insect relief. The few hundred or few thousand acres primarily relates to the actual footprint of habitat loss, whereas the area that is actually affected by the network of drill pads, roads, pipelines, bridges, and power lines, and the disturbance zone around them that would come with development (functional habitat loss), would be greater.

090
Caribou

Migration Corridors The sixth paragraph on Page 4-210 states that many caribou movements to coastal insect-relief areas occur to the east of Teshekpuk Lake, and therefore would not be affected by oil and gas development activities, as the region northeast of Teshekpuk Lake would be excluded from leasing. However, the critical part of the movement to the coastal insect relief area is through the narrow corridor between Teshekpuk Lake and the Kogru River, an area that would be open to leasing under the preferred alternative. Because of the large number of lakes and small amounts of land in this corridor, caribou, pipelines and roads would have to use this same sparse quantity of land. As caribou have avoided roads with minimal traffic during calving in parts of the current oilfields, structures in this corridor could significantly reduce its functional width. In addition, the area that would be excluded from leasing does not extend to the three quarter mile coastal buffer except for the eastern side, allowing development relatively close to most of the coastline. Also, pipelines could be allowed in the coastal and lake setbacks, and in the corridor between Teshekpuk Lake and Kogru River. The end result would be an increased potential for oil and gas development activities to significantly affect the use of this migratory corridor.

091
Caribou

Caribou must pass through these corridors to get to and from insect relief areas. Any development that occurs on the limited amount of habitat that is used by caribou migrating through this corridor would likely affect caribou movements. The area to the east of Teshekpuk Lake is a particular concern because nearly all of the parturient cows pass through this area either shortly before or after calving. Cows with calves are very sensitive to disturbance and would be strongly affected by development in this area. Disturbance would affect movements and add stress for both the cows and calves during this critical time of the year. The calves are young and vulnerable. The cows are highly stressed from surviving the winter and from lactation.

092
Caribou

Chapter 4, Environmental Consequences, Alternative B, Section 4.4.9, Mammals, Oil and Gas Development, Caribou, Page 4-213. The text states that exposure from helicopter traffic, seismic operations, exploration drilling, and pipeline construction is not expected to have any effects at the population level. However, the combination of these temporary activities with development activities, which could include a network of drill pads, pipelines, roads, bridges, power lines, and the activity required to build and maintain this infrastructure, may have an effect on the TLH at the population level. Studies done over the last decade indicate that TLH caribou are sensitive to displacement from their calving area. If the TLH is displaced from its calving area or if caribou are impeded from reaching the calving area, recent surveys indicate that calving success will most likely be reduced with a resulting drop in the TLH population. Therefore, it must be acknowledged that even temporary activities must be managed to avoid displacing or impeding the TLH from its calving area.

093
Water W.

Chapter 4, Environmental Consequences, Alternative C, Section 4.5.4, Water Resources, Effects of Disturbance, Ice Road/Pad Water Use, Page 4-269. This paragraph incorrectly states the under-ice water withdrawal conditions for this alternative. This alternative, as with the preferred alternative, limits water withdrawal to 15% of the under-ice volume for lakes deeper than 7 feet and up to 30% for lakes containing only ninespine stickleback and/or Alaska blackfish. See Required Operating Procedure B-2.

094
Water R.

Chapter 4, Environmental Consequences, Alternative B, Section 4.5.4, Water Resources, Effects of Disturbance, Drainage Disruption, Page 4-270. The second paragraph of this section notes that culverts must have ample capacity to handle the flow of the drainage during spring breakup to avoid ice jams. Generally, ice jams are not the problem associated with undersized culverts. If culverts are not adequately sized for the drainage, high flows often cause failure of the culvert and a portion of the road. This causes gravel deposition in the stream downstream of the culvert which may impede fish passage. Undersized culverts often have water velocities that exceed that of the free-flowing stream, thereby impeding or preventing efficient upstream movement of fish through the culvert. Undersized culverts also lead to downstream channel scouring.

095
Water R.

Chapter 4, Environmental Consequences, Alternative C, Section 4.5.4, Water Resources, Oil and Gas Development Activities, Under-Ice Oil Spills, Page 4-272. The second paragraph in this section notes that lakes that are non-fish bearing are not regulated with setbacks; however, see Stipulation E-2 which indicates 100 foot setbacks are applicable to non-fish bearing waterbodies.

096
Effects
of Spills

Chapter 4, Environmental Consequences, Alternative C, Section 4.5.5, Vegetation, Oil and Gas Development Activities, Effects of Spills, Page 4-278. This section notes that a maximum coverage of 4.8 acres would occur if an oil spill were to be a wind-blown mist. There is an apparent discrepancy with this statement and the statements in Section 4.10.4.4, page 4-440 that refer to the December 1993 ARCO drill site spill that misted an estimated 100 to 145 acres.

97

Chapter 4, Environmental Consequences, Effects of the Cumulative Case, Section 4.6.5.10, Use of Gravel and Water Resources, Paragraphs 3 & 4, Page 4-357. The Alaska Department of Natural Resources Division of Mining, Land, and Water issues temporary water use permits for water withdrawal from lakes. If these lakes contain fish, the Alaska Department of Natural

Resources Office of Habitat Management and Permitting would issue Title 41 Fish Habitat Permits for water withdrawal activities.

098
Cumulative

Chapter 4, Environmental Consequences, Effects of the Cumulative Case, Section 4.6.9.8, Birds, Cumulative Analysis, Page 4-381. The second paragraph in this section notes there would be minor differences in cumulative effects to birds under the alternatives based on the percent habitat disturbed. Although the percentage of habitat disturbed may not vary greatly among the alternatives, the relative importance of habitat to birds that may be affected differs significantly. The Goose Molting Area, although relatively small in area relative to the entire planning area or North Slope, is extremely important to molting geese. Disturbance or loss of habitat in this area would likely have considerably greater effects to geese than it would in a similar sized area in most other parts of the planning area.

099
Cumulative

Chapter 4, Environmental Consequences, Relationship between the Local Short-term Uses and Maintenance and Enhancement of Long-term Productivity, Section 4.8.8, Birds, Page 4-427. This section states disturbances associated with oil and gas activities would likely impact birds during the life of the field but would unlikely continue after field abandonment. If roads, pads, and airstrips are retained at field abandonment, non-industry activities on these structures may continue to provide some level of disturbance to birds. If intensive activities near traditional goose molting lakes causes abandonment of use of these lakes, establishing a timeframe for re-establishment of the molting tradition at these lakes, if it even occurs, is difficult. We recommend the final EIS reflect this perspective.

100
Birds

Chapter 4, Environmental Consequences, Irreversible and Irretrievable Commitment of Resources, Section 4.9.8, Birds, Page 4-432. Potential loss of traditional molting areas within the GMA could have considerable impacts to populations, as similar physical habitat is apparently not available on the North Slope.

101
Permitting

Appendix C, Federal, State, and Local Permits and/or Approvals for Oil and Gas Exploration, Development, and Production Activities, Page C-3. Under State, remove the Alaska Department of Fish and Game as issuing Fish Habitat Permits under AS 16.05.840. Replace with: Alaska Department of Natural Resources, Office of Habitat Management and Permitting; issues Fish Habitat Permits under AS 41.14.840 and AS 41.14.870.

102
Threatened

Appendix G, BLM Sensitive Species List for Alaska. Throughout the document, this BLM sensitive species list is identified as “proposed.” However, the appendix does not indicate that this list is a proposed list. Either the text references or the appendix should be altered to reflect the true status of this list.

103
Coastal

2. DNR Office of Project Management and Permitting

Page 3-97 3rd paragraph. The listed federal authorizations referenced in 15 CFR 930.53(a)(1) are found in 11 AAC 110.400. (Activities requiring a federal authorization subject to consistency review.). It may be helpful to list both state and federal regulatory citations in this section describing the ACMP.

104
Coastal

Pages 4-149, 4-238, and 4-317. These sections are correct in citing ACMP Statewide Standards at 6 AAC 80 that are currently in effect, however; these sections should note that 6 AAC 80 has been amended and new statewide standards are now at 11 AAC 112, but implementation of the new standards is pending approval by the Office of Ocean and Coastal Resource Management.

105
Effects of
Spills

B. Alaska Department of Environmental Conservation

General Comments

Spills

There are more than just hydrocarbon spills that occur on the North Slope. Other spills that are tracked and reported are sewage spills and seawater. Seawater being spilled in a freshwater environment could certainly have adverse effects.

Seawater spills can be quite large and have the potential to effect significant area. Also, clean up and containment can be quite different from winter to summer conditions.

Sewage spills are usually small and occur during pumping, transferring, or frozen lines and stay mainly on gravel pads. In the summer sewage spill soak into the pad while in winter they rapidly freeze which are relatively easily cleaned up. Final treatment of the affected area is usually to disinfect by using lime or a chlorine solution.

106
Spill
Prevention

Severe weather conditions in the Arctic can pose unique challenges in cleanup and containment of all spills. The weather also affects the transport and potential impact that a spill may have. Extreme wind and broken ice are two conditions that can affect spills.

107
Spill
Prevention

The document should reference to the Alaska Department of Environmental Conservation's requirement that all crude oil transmission pipelines will have leak protection that meets 18 AAC 75.055 requirements.

108
Spill
Prevention

Any development in NPR-A may be in close proximity to native population subsistence areas. The document should clarify how and when spill notification to local populations will occur.

109
Effects of
Spills

Spill classifications (small, large, and very large) should be more in line with historical data. Separate criteria could be added to encompass a "catastrophic" spill (120,000bbl)

110
Spill
Prevention

4.2.2.5 Spill Prevention and Response should include a statement that each permittee must have certified proof of financial responsibility - 18 AAC 75.240.

111
Air

Air/Water Quality

There should be more detail as to the effects of construction and production activities creating fugitive dust and its affect on the environment. Adverse fugitive dust occurs primarily in the summer but vehicles can track-out fine material from gravel mining operations in the winter also. Any fugitive dust control measures that may be available to reduce the fugitive dust should be explained.